Introduction to the HG8447

1.1 Product Introduction

This topic provides the appearance and describes the ports and LEDs of the HG8447.

The HG8447 is an indoor optical network terminal (ONT) designed for home users and small office and home office (SOHO) users. Its upper shell adopts the natural heat dissipation material, and its optical port adopts the dust-proof design with a rubber plug. The HG8447 is eye-pleasing and energy-efficient. It can be deployed on a workbench or mounted on a wall, meeting users' deployment requirements in different scenarios.

By using the gigabit-capable passive optical network (GPON) technology, the HG8447 provides a high-speed data channel through a single optical fiber with an upstream rate of 1.244 Gbit/s and a downstream rate of 2.488 Gbit/s. In this way, you can enjoy quality high-speed data service, voice service, and video service. In addition, the HG8447 provide reliable wireless access service, and convenient storage and file sharing services within a home network.

As an ONT, HG8447 provides convenient and efficient remote management functions. The HG8447 supports the TR-069 and ONT Management and Control Interface (OMCI) protocols and manages all home terminals in a unified manner, thus implementing remote fault diagnosis, service provisioning, and performance statistics measurement.

1.1.1 Appearance

This topic provides the appearance of HG8447.

Figure 1-1 Appearance of the HG8447

1.1.2 Ports

This topic provides the appearance of the ports on the HG8447 and describes the functions of the ports.

Ports on the HG8447

Figure 1-2 Ports on the rear panel of the HG8447

Table 1-1 Descriptions of the ports on the rear panel of the HG8447

Port and Button	Function
CATV	Indicates the radio frequency (RF) port, used for connecting to a TV set.
OPTICAL	Indicates the optical port. The optical port is equipped with a rubber plug and is connected to an optical fiber for upstream transmission. The type of the optical connector connected to the OPTICAL port is SC/APC.
LAN1-LAN4	Indicate auto-sensing 10/100/1000M Base-T Ethernet ports (RJ-45), used for connecting to PCs or IP STBs.
TEL1-TEL4	Indicate VoIP telephone ports (RJ-11), used for connecting to the ports on telephone sets.
ON/OFF	Indicates the power-on/power-off button, used for powering on or powering off the device.
POWER	Indicates the power port, used for connecting to the power adapter or backup battery.

Figure 1-3 Ports on the side panel of the HG8447

Table 1-2 Descriptions of the ports on the side panel of the HG8447

Port and Button	Function
BBU	Indicates the external backup battery monitoring port, used for connecting to the backup battery for monitoring the battery.
USB	Indicate the USB host port, used for connecting to a USB storage device.
WLAN	Indicates the WLAN button, used for enabling or disabling the WLAN function.
WPS	Indicates the WLAN data encryption switch.
RESET	Indicates the reset button. Press the button for a short time to reset the device; press the button for a long time (longer than 10s) to restore the device to the default settings and reset the device.

1.1.3 LEDs

This topic provides the appearance of the LEDs on the HG8447 and describes the indications of these LEDs.

Figure 1-4 LEDs on the HG8447

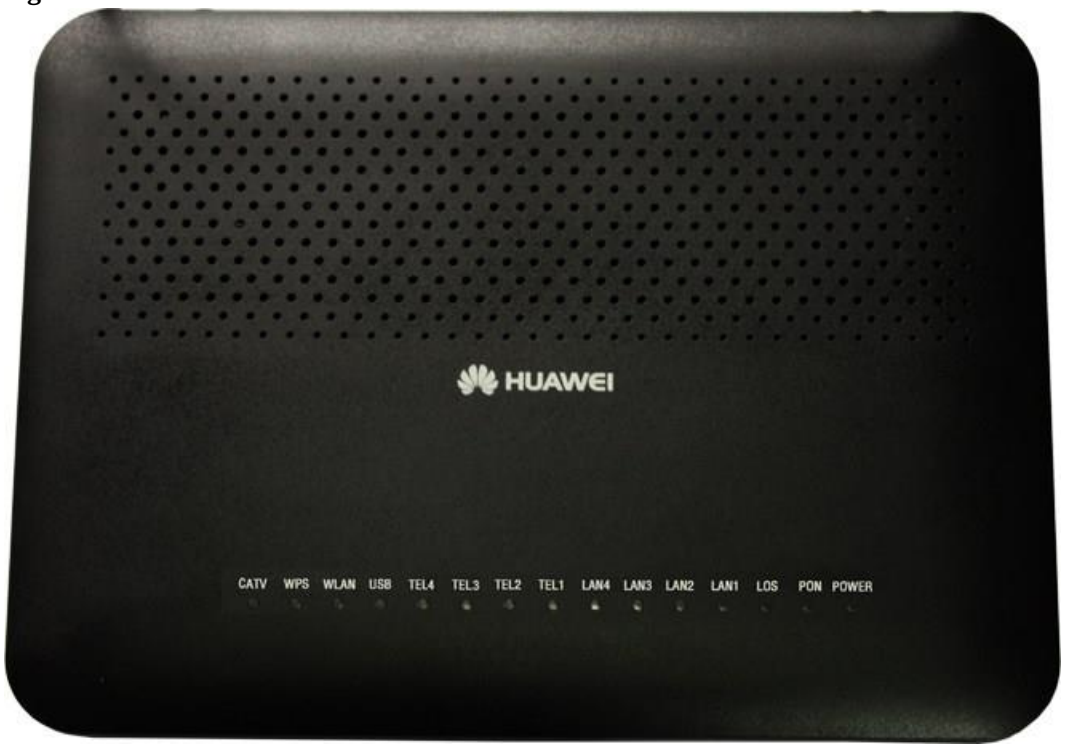


Table 1-3 Indications of the LEDs on the HG8447

Silk Screen	Name	Status	Indication
POWER	Power supply LED	Green: always on	The device is powered on.
		Orange: always on	The device is powered by the backup battery.
		Off	The power supply is cut off.
PON	Authentication LED	See **Table 1-4**.	
LOS	Connection LED	See **Table 1-4**.	
LAN1-LAN4	Ethernet port LED	Always on	The Ethernet connection is in the normal state.
		Blinks	Data is being transmitted on the Ethernet port.
		Off	The Ethernet connection is not set up.

Silk Screen	Name	Status	Indication
TEL1-TEL2	Voice telephone port LED	Always on	The connection to the voice server is set up.
		Blinks quickly (twice per second)	The connection to the voice server is set up and the telephone is in the off-hook or ringing state.
		Blinks slowly (once two seconds)	The ONT is registering with the voice server.
		Off	The connection to the voice server is not set up.
USB	USB port LED	Always on	The USB port is connected and is working in the host mode, but no data is being transmitted.
		Blinks quickly (twice per second)	Data is being transmitted on the USB port.
		Off	The system is not powered on or the USB port is not connected.
WLAN	WLAN port LED	Always on	The WLAN function is enabled.
		Blinks	Data is being transmitted on the WLAN port.
		Off	The WLAN function is disabled.
WPS	WPS port LED	Always on	The WPS function is enabled.
		Blinks	A Wi-Fi terminal is accessing the system.
		Off	The WPS function is disabled.
CATV	CATV port LED	Always on	The CATV function is enabled and CATV signals are received.
		Off	The CATV function is disabled or CATV signals are not received.

Table 1-4 Indications of PON and LOS LEDs

No.	LED Status		Indication
	PON	LOS	
1	Off	Off	The ONT is disabled by the OLT.
2	Blinks quickly (twice per second)	Off	The ONT is attempting to set up a connection to the OLT.
3	Always on	Off	The connection between the ONT and the OLT is set up.
4	Off	Blinks slowly (once two seconds)	The Rx optical power of the ONT is lower than the optical receiver sensitivity.
5	Blinks quickly (twice per second)	Blinks quickly (twice per second)	The OLT detects that the ONT is a rogue ONT.

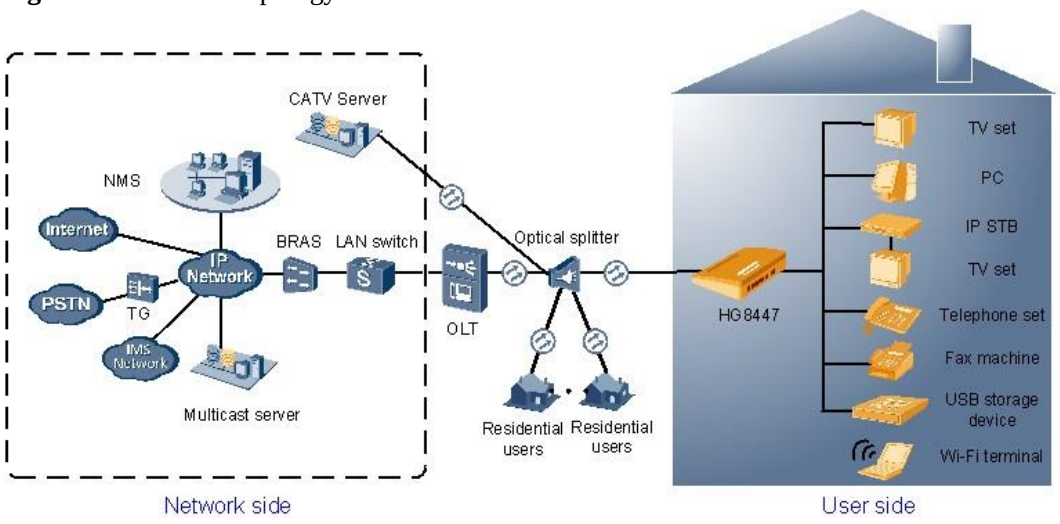
1.2 Typical Network Applications

This topic describes the typical network applications of the HG8447.

As a network terminal, the HG8447 is deployed at the GPON access layer and connects home users and SOHO users to the Internet through optical upstream ports. On the local area network (LAN) side, the HG8447 provides abundant hardware ports to meet various network requirements of home users and SOHO users.

Network Topology of the HG8447

Figure 1-5 Network topology of the HG8447



- In the upstream direction, the HG8447 is connected to the optical splitter and the networkside OLT through the PON port, namely the OPTICAL port, to provide integrated access services.
- In the downstream direction, the HG8447 is connected to various terminals through the following LAN-side ports to implement the triple play service:
  - One CATV port, which can be connected to a TV set to provide high-quality CATV service transmission.
  - Four 10/100/1000M Base-T Ethernet ports, which can be connected to terminals such as PCs, STBs, and video phones to provide the high-speed data and video services.
  - Four TEL ports, which can be connected to telephone sets or fax machines to provide superior and cost-effective VoIP, FoIP, and MoIP services.
  - Two Wi-Fi antennas, which can connect to Wi-Fi terminals wirelessly to provide a secure and reliable high-speed wireless network.
  - One USB port, which can be connected to a USB storage device to provide convenient storage and file sharing services within a home network.